WYOMING HIGHLIGHTS 2009

Bridger Antelope Trap Dendrochronological Study

In 2008 and 2009, the Kemmerer Field Office initiated a dendrochronological study of the Bridger Antelope Trap, an early historic site in southwest Wyoming that is listed on the National Register of Historic Places. Although early settlers described the communal trapping operation by Native American tribal groups, there is no other information to demonstrate the trap's age of construction, its use and maintenance, and its time depth. The dendrochronological study is being accomplished through a Financial Assistance Agreement with Indiana State University (ISU) Biogeography and Dendrochronology Laboratory, with Drs. James Speer and Karla Hansen- Speer serving as principal investigators. In 2008 and 2009, ISU collected a total of 200 tree ring samples with the assistance of BLM cultural resource and forestry staff, two Chicago Botanical Gardens interns, three BLM volunteers, and four ISU students. The samples included core and cross section samples from the old juniper wood in the remnants of fence that define the trap and old axe-cut stumps in the adjacent juniper stands, as well as core and cross section samples from live juniper trees and sagebrush within and near the trap. The samples collected in 2008 were analyzed to determine the feasibility of this study, resulting in an early date of A.D. 1754 in the master chronology from live juniper. While the analysis of the 2008 samples from the old trap wood was inconclusive due to the weathering and poor preservation, a preliminary estimate of early 1800's is proposed as an outside date for one sample. Therefore, BLM made a determination to continue the study through additional sampling of old trap wood, old stumps, and live juniper that would provide sufficient data to meet the original objectives of this study. The samples collected in 2009 will be analyzed over the next year or two, depending on the amount of federal funding available.

During the course of this study, other BLM efforts generated additional information about the site, including a reconnaissance of the area that identified a number of old axe-cut stumps that may be related to the trap's construction. The BLM also collected several projectile points from within the trap, mapped the juniper fence remnants and related features with Global Positioning System technology, and produced technical illustrations and photographs of the old trap wood where tree ring samples were collected. Information acquired from the dendrochronology study and related efforts will be presented in 2009, to the Wyoming Association of Professional Archaeologists (WAPA) in September and at the Rocky Mountain Anthropological Conference in October. In addition, BLM will provide a tour of the Bridger Antelope Trap to the Lincoln County Historical Society in September of 2009. In 2010, the BLM plans to conduct an intensive inventory of the trap area using volunteers from WAPA. (Map follows.)

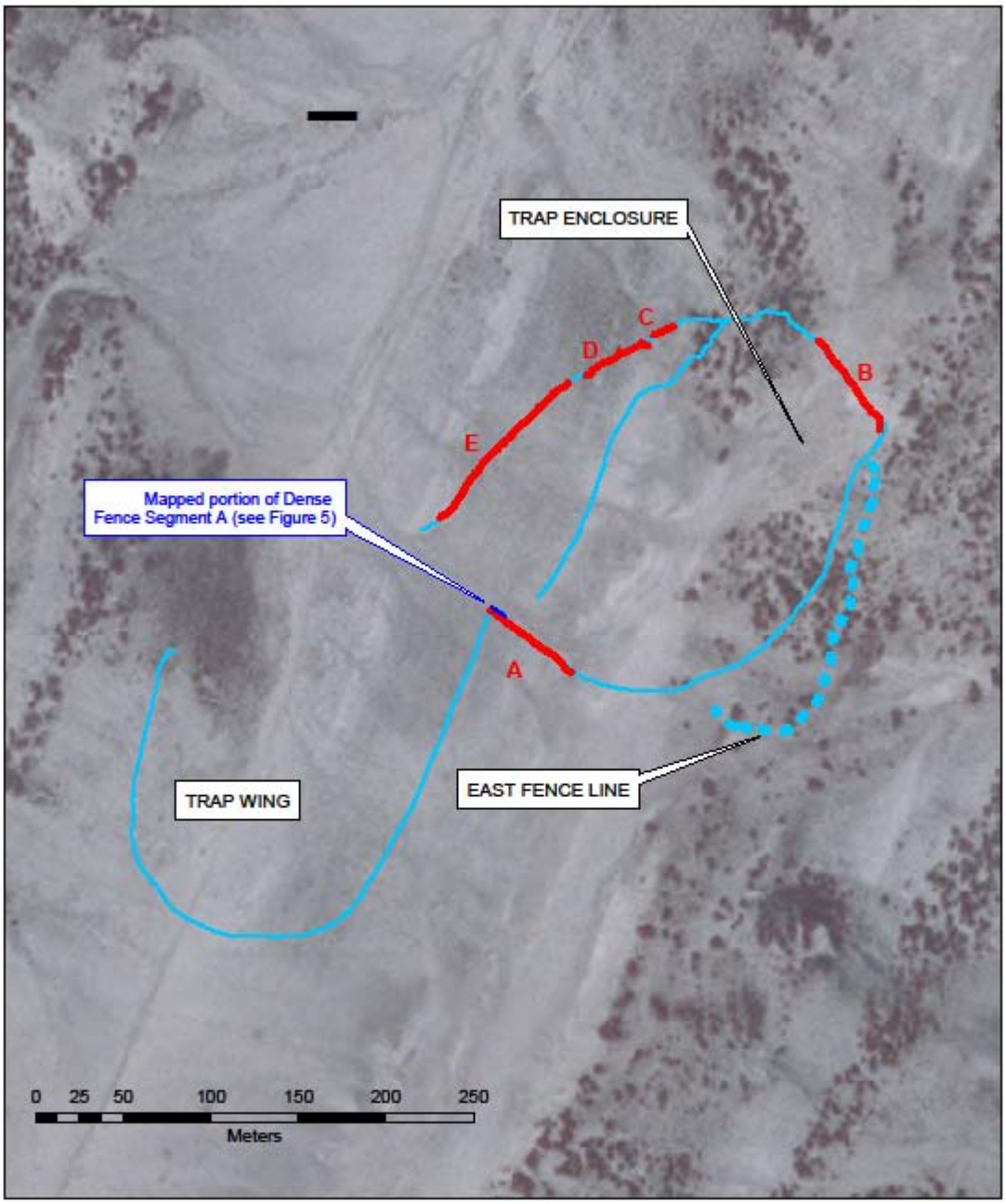


Figure 3. Bridger Antelope Trap depicted on the 2001 Digital Orthophoto Quarter Quadrangle infrared aerial photograph, showing the trap elements and Dense Fence Segments A-E which will be mapped for tree-ring sampling, as done for the northwest end of Segment A (shown in Figure 5).

Take It Outside "Living Landscapes" Modified-Whittaker Plot Base-line Survey

The BLM Cody Field Office and the Greybull River Sustainable Landscape Ecology (GRSLE) non-profit organization are partnering with the Cody schools' StarGATE program for a BLM Take It Outside "Living Landscapes" project. The project objective is to teach children that they are an integrated part of their ecosystem. To help children discover relationships between ecosystem structure and past and present human activities, they will be introduces to information found in the archaeological record and to the diverse set of bio-physical information required to realistically document archaeological context. In order to teach kids the importance of resource protection and its relevance to their lives, the program will increase landscape awareness by sharpening their observation and documentation skills.

The project began in FY2009 with the survey and baseline data collection for a Modified-Whittaker sample plot just north of Cody, Wyoming. The nested sample plot was installed using an Electronic Distance Measurement total station capable of sub-millimeter accuracy (Photo 1). Photo 2 shows GRSLE members Dave Ingbar, John Lambert and Abe Thompson, BLM Archaeologist Ashley Wisehart, and Dr. Larry Todd inventorying the sample plot for cultural resources.

Looking for cultural resources

GRSLE members lay out sample plot

Point of Rocks Cemetery

In September 2008, the Rock Springs BLM Field Office, with the assistance of volunteers, constructed a walking path, parking area, and benches up to the Point of Rocks Cemetery as a Public Lands Day celebration. The volunteers also placed an entryway in the fence surrounding the nearby Point of Rocks Stage Station which allowed walking access to the cemetery from that location. A goal of the project was to make the site compliant with the American with Disabilities Act. The paved parking area serves as an access for those with disabilities. The path was graded at a 5% incline and the smooth surface allows for wheelchair accessibility. A two-rail fence was installed along the path. The rail allows for the visually impaired to walk up to the graves. Interpretation and Braille signs will be installed during a site dedication ceremony on October 1, 2009. (Four photos follow.)

Getting ready for fenceposts

Placing fenceposts

The trail is now ADA compliant.

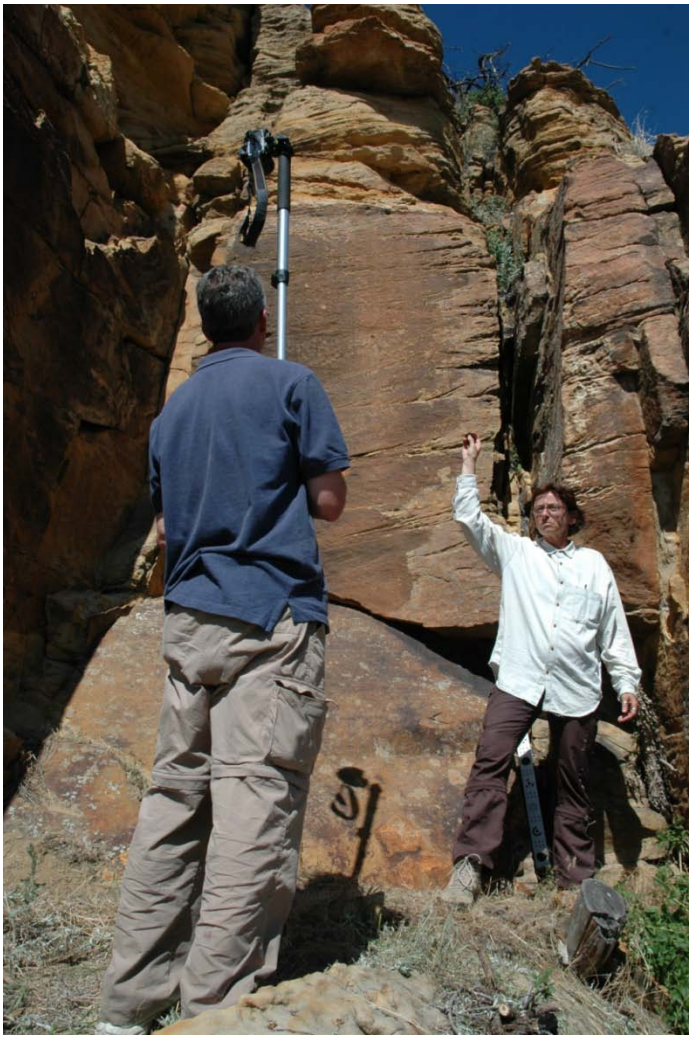
Placing a bench along the trail.

PIT Project

Newcastle Field Office completed two weeks of fieldwork focused on taking photographs for photogrammetry. BLM NOC photogrammetrists, Neffra Matthews and Tom Noble, assisted by Passport in Time volunteers, took hundreds of photographs to made 3D models of the petroglyph panels. Panels on adjacent cliff faces were photographed together to make 3D models that covered sections of the cliff wall and give the feeling of walking along the canyon. BLM will use the 3D models to develop a virtual tour that will serve as an educational tool and the beginnings of a research tool. As data are gradually added to the photogrammetry database, BLM will develop a complete research and monitoring tool. Photogrammetry provides the best available baseline data for monitoring future changes and deterioration of rock art panels. The petroglyph ACEC was severely impacted by wildfire in 2001. The photogrammetry will enable comparison of the post-fire condition of the petroglyphs with prefire photographs to see how much damage and deterioration has occurred. The goal for photogrammetry this year was 20 petroglyph panels and the goal was exceeded by 65%, as stereo photography was completed for 33 panels.

Two sessions of fieldwork were conducted in June and July. Nine volunteers assisted during the project. In addition to assisting with the photogrammetry, they surveyed to look for more petroglyph panels and recorded recently discovered panels on recordation forms. The survey team inspected several sections of the canyon wall for the first time since the 2001 wildfire removed obscuring vegetation and impacted the panels. The surveys covered the north end of the canyon which had been most thoroughly surveyed in the early 1990s. Only one new petroglyph panel was discovered in this area; however, other portions of the canyon that were also denuded of vegetation in the wildfire have not yet been reinspected. Unlike the northern section of the canyon, the remainder has been surveyed only once pre-fire and we can expect more panels to be discovered in future surveys. The volunteer team also completed recordation forms on four panels located more recently.

The following 3 photographs are from the PIT project.



Castle Gardens Rock Art Site Condition Assessment

Lander Field Office is beginning a multi-year project to completely update the management plan at the Castle Gardens Rock Art Site, first developed for visitor use in the 1960s. Castle Gardens has world-class rock art, including spectacular shield-bearing warrior designs and is listed on the National Register. Unfortunately, a lack of interpretation and of active management has led to steadily increasing vandalism at the site. To begin the process of modernizing the site, LFO contracted with Dr. J.H.N. Loubser of Stratum Unlimited, a rock art conservation company, to assess the main rock art panels at Castle Gardens. Dr. Loubser did a condition assessment of the rock art panels and made recommendations for graffiti removal and site protection measures. Dr. Loubser produced an excellent report and also provided many helpful recommendations concerning the layout and interpretation of the site. His recommendations for graffiti removal or camouflage will be implemented in 2010, and his recommended conservation and management actions will be incorporated into the new management plan for the site. Dr. Loubser's help has been greatly appreciated.

Dr. Jannie Loubser at Castle Gardens.

Little Missouri Antelope Trap

The University of Wyoming in partnership with the BLM conducted an 11 day fieldwork session to continue mapping the trap structures. Several rows of juniper wings were flagged and mapped, showing how the antelope were led over a pass on the ridge top into a pit trap. These wings are on the other side of the pass from the wings mapped during the 2008 field season. The University of Wyoming crew mapped each log with a total station and measured the length, width, and orientation in order to create a map that shows how the trap structures are laid out. Late Prehistoric projectile points and another pottery fragment were discovered along the trap wings. Pottery is rare in Northeastern Wyoming and normally occurs only in habitation sites along rivers such as the Belle Fourche.

Wardell Buffalo Trap

In July, 2009, Assistant State Archaeologist Dr. Danny Walker conducted pedestrian inventory and a nondestructive magnetometer survey of 240 acres of the expanded Wardell Buffalo Trap (48SU301) in the Pinedale Field Office (PFO). The Wardell Site is listed on the National Register, and Dr. Walker's inventory is in support of proposed National Historic Landmark designation. The newly recorded shaman's structure, the brush driveline, the bison processing area and the approaches to the kill area/main bone bed were recorded and evaluated via magnetometry. The National Historic Landmark survey is phase 2 of PFO's overall Wardell project, a follow up to the successful Wardell Buffalo Trap stabilization project of 2006-2008. BLM and the Jonah Interagency Office have contributed funding for this effort. The following photograph is from this project.

Cedar Ridge Site Inventory and Modeling

The Casper Field Office contracted for an inventory and site boundary description for 48NA2457, Cedar Ridge, a traditional cultural property. Approximately 1000 acres were inventoried in 160-acre blocks to provide data for subsequent model-building. Another contract included the Phase II of the Cedar Ridge Project. This contract included creation of a sensitivity model that would allow an assessment of the probability of prehistoric sites to be present in a given area. As a planning tool, the model was to be flexible enough to use in other ecological settings. An additional 1120 acres were inventoried in 160-acre sample blocks to test the efficacy of the model.

Kansas School for the Blind

Students and faculty from the Kansas School for the Blind visited the Rock Springs Field Office this June. Braving hail, rain, and the occasional distant bolt of lightning the hardy group camped at the Little Sandy Crossing of the Oregon Trail, a site recently acquired by the Bureau of Land Management. The students all took on characters of the ill-fated Donner Party of 1846. It was at the very campsite used by the Kansas School for the Blind that the Donner Party formed from members of other wagon companies and elected George Donner as their leader. Though

historical theme of the trip was a serious one, the students were light-hearted and discussed their characters and the events of 1846 with great passion. The group hiked segments of trail within BLM lands near South Pass and the Parting of the Ways.

Camping helped the students experience many of the discomforts and wonders experienced by the 19th Century emigrants. Sudden storms, bugs, badger holes, and cold temperatures made the experience realer than some might like, but overall added to the authenticity of the trail visit. The group performed *Do They Miss Me At Home?*, one of the most popular songs associated with the California gold rush. The members also made crafts and gave presentations regarding the Donner Party.

A highlight of the visit was the presence of a full-sized replica covered wagon. Students were familiarized with the parts of the wagon. The entire tour group then hitched themselves to the wagon and pulled it through the Little Sandy River crossing on the original ruts of the Oregon Trail. The creaking, rattling, jingling, and splashing sounds made during this process surely were similar to those experienced by the 19th Century travelers using this very same crossing. Like the Donner Party of 1846, the school tour of 2009 left the Little Sandy River roughly on-schedule and with well-fed and healthy members. This was the Kansas School for the Blind's third such trek involving southwestern Wyoming. Their trek shows the importance of preserving these special places for the use and wonderment of future generations.

Legend Rock Petroglyph Site

The Legend Rock Petroglyph Site Cooperative Project benefitted from approximately 640 volunteer hours this fiscal year. BLM entered into a long term cooperative agreement with the Wyoming Archaeological Society (WAS) to facilitate logistics for the project. Other partners involved include the Legend Rock Ranch, Wyoming State Parks and Cultural Resources, and the Office of the Wyoming State Archaeologist. The project has documented a total of 223 panels at the site, including photogrammetric data for the creation of digital elevation models of select panels.

The results of the 2008 field work were the principal topic of a Symposium at the 66th Plains Anthropological Conference in Laramie, Wyoming. Seventeen papers were presented during this day-long session. BLM also organized a symposium in conjunction with the Wyoming Arcaheological Society and the Buffalo Bill Historical Center in Cody, Wyoming. Eighteen presentations were made during this symposium relating to the resources identified during the field work. An attempt was made to place the work within a larger regional context with papers from researchers working in surrounding areas.

Bears and bear tracks located at Legend Rock during the project.

Fish pictograph found at Legend Rock. Only one other site in the Rocky Mountains is known to have fish images.

Fish petroglyph and mounted shield bearing warrior at Legend Rock. Note the bullet hole to the right of the image.

PUBLIC OUTREACH

Jonah Gas Field Archaeology

A new exhibit was unveiled at the Museum of the Mountain Man in Pinedale, Wyoming. Entitled “Jonah Gas Field Archaeology,” the project was partially funded through a grant from the Jonah Interagency Office. BLM Pinedale Field Office (PFO) staff archaeologists assisted museum staff in preparing the exhibit. The display highlights the Jonah Gas Field's unique plethora of Early Archaic sites and house structures, some of the oldest domestic structures known for the Rocky Mountain region. A sampler of the actual artifacts, photographs of the excavations, a reconstruction of a 6500 year old brush structure and a replica Archaic atl-atl are featured. Two photographs from the exhibit follow.

Casper Field Office Outreach Program

On Friday July 31, 2009, two archeologists from the BLM Casper Field Office hosted a joint Wildlife and Archeology Conservation Outreach Program for the Boys and Girls Club of Casper. Held at the Bessemer's Bend historic trail interpretive site west of Casper, information was provided to 15 children. During the cultural resources portion of the program, the children, ranging in age from 5 to 12 years, participated in hands-on activities related to identifying prehistoric artifacts. The archaeologists also discussed the difference between sites (or "arrowheads") discovered on public versus private lands. The program ran for two hours and focused on the importance of reporting and preserving archeological sites for future generations.

BLM Archæological Technician Kay Hammer discusses the importance of documenting the location of a newly discovered archeological sites and reporting it to appropriate officials.

BLM Archæologist Brian Wygal introducing the concept of prehistoric artifacts by demonstrating core and flake techniques and allowing first hand examination of an actual stone tool assemblage by the participants.

Castle Gardens Interview with K2 TV

On July 2, 2009, K2 TV interviewed Lander Field Office archaeologists Karina Bryan and Craig Bromley at the Castle Gardens Rock Art Site for the new "Wyoming Summer Hot Spots" series. This series highlights interesting spots throughout Wyoming, and discusses their most interesting features as well as the challenges site managers face. Dialogue revolved around the postulated age, origins, and purposes of the rock art, and its significance to local tribal groups. Also discussed was the problems of vandalism, weathering, and the "loving to death" problems at the site. Recent protection efforts were stressed and information was provided regarding the future redesign of the site to make it a more enjoyable place to visit. The "spot" aired on July 15.

Craig Bromley, far left; Karina Bryan, second from right. The TV news crew have sunglasses on.

Nez Perce Signs Dedication

Nez Perce Trail Foundation, Executive Director, Jim Evans and BLM Cody Field Office Archaeologist, Kierson Crume, enjoy the newly installed interpretive sign in Clark, Wyoming. A partnership between the non-profit Nez Perce Trail Foundation, the BLM, and the Edelweiss Store resulted in a three paneled kiosk entitled "Escape From Clark Fork Canyon." The information provided explains how the Nez Perce eluded soldiers from the Seventh Cavalry by leaving the area through the very narrow Clark Fork Canyon. Volunteers ranging from the Cody Chapter of the Nez Perce Trail Foundation, to the University of San Diego Extension at Sacramento, California, assisted in installation of the signs.

Wyoming Heritage Project

The Worland Field Office has become involved in a new public education outreach project called the Wyoming Heritage Project. This project involves five Wyoming school districts and the University of Wyoming. Its focus is to use heritage resources located on BLM administered lands to teach the importance of place-based research. It is aimed at students in grades K-12. An initial meeting was held in July to introduce the program to local teachers. Additional information will be provided in next year's report.

Oregon Basin Petroglyph Site Clean-up Day

Volunteers from the Wyoming Site Stewardship Program, the Absaroka Chapter of the Wyoming Archaeological Society, and Northwest Community College's (NWCC), Introduction to Archaeology class recently assisted the Bureau of Land Management, Cody Field Office in a clean-up effort of the Oregon Basin Petroglyph Site. The site has been subject to vandalism for many years, which prompted last summer's Stewardship training coordinated through the BLM and the Wyoming State Historic Preservation Office. Observations from a Stewardship site inspection revealed a recent episode of impact occurring between 18-Jan-09 and 21-Jan-09. In response, volunteers spent a pleasant day removing debris from four modern camp fires, picking up garbage, and re-contouring impacts from off road vehicle tracks. A Cody restaurant, the Breadboard, graciously donated sandwiches to the group. Dr. Larry Todd, professor of Anthropology at Colorado State University and NWCC, brought his Electronic Distance Measurement total station to create a new site map, which provides information of rock art panel location, recent impacts, and two newly discovered prehistoric hearths, all at sub-millimeter accuracy. Cooperative efforts of this sort emphasize the importance of working together to care for our public land resources.